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Horticultural Societies.

The Forty-sixth Annual Exhibition of the Massachusetts Horticultural Society

WAS held September 15th, 16th, 17th and 18th, and on the whole, was fully equal to the splendid exhibition of last year. The fruits were shown in the upper Horticultural Hall, and though the pears, which always constitute the most prominent feature of the fruit shows of this society, were not as good as last year, it must be remembered that that crop was much above the average. Native grapes, owing to the lateness of the season, were not in as large quantity or as well ripened as usual, but on the other hand, the peaches and apples were much more abundant and of better quality than last year. The vegetables in the lower hall were excellent, both in quantity and quality, and we were glad to see that this important department of the exhibition attracted more attention than ever before. The plants and flowers were shown in Music Hall, and though less imposing than last year, there being not so many of the large tree ferns and other plants which gave one the impression of walking in a tropical grove, we thought it more beautiful and the arrangement an improvement. The cut flowers, instead of being placed under the balconies, were arranged directly in front of the stage; a fine belt of gladioluses, asters, etc., relieving the green of the palms, ferns, and other plants, while another stand and a table covered with floral designs filled the gallery at the end of the hall. In the center of the hall was a fountain, the basin surrounded by flowering plants, and the sides of the hall where the cut flowers were placed last year, were occupied with semi-circular stands, two on each side, one filled with a large and varied collection of evergreens from H. H. Hunnewell, another with new and rare plants from James Comley, and the other two with the prize collections of ferns. The plants being so arranged that none interfered with the view of the others, the whole exhibition could be seen at once from the stage, presenting a most beautiful appearance.

The prizes for the best twenty varieties of pears were awarded: 1st, to Alexander Dickinson, for Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Clairgeau, B. Hardy, B. Superfin, Dana's Hovey, Duchesse d'Angouleme, Howell, Lawrence, Louise Bonne of Jersey, Marie Louise, Merriam, Onondaga, Paradis d'Automne, Seckel, Sheldon, St. Michel Archange, Urbaniste; 2d, to Hovey & Co., for Adams, Andrews, Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Hardy, Dana's Hovey, Doyenne Boussock, D. du Comice, Lawrence, Marie Louise, Merriam, Onondaga, Paradis d'Automne, Pratt, Seckel, Sheldon, St. Michel Archange, Urbaniste; 3d, to Joseph H. Fenno, for Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Clairgeau, B. Hardy, B. Langlier, B. Superfin, Doyenne Boussock, Duchess, Esperine, Golden Beurre of Bilboa, Howell, Lawrence, Louise Bonne, Onondaga, Seckel, Sheldon, Urbaniste, Winter Nelis; 4th, to William R. Austin, for Bartlett, Belle Lucrative, Beurre d'Anjou, B. Bosc, B. Clairgeau, B. Hardy, B. Langlier, B. Superfin, Clapp's Favorite, Doyenne Boussock, D. du Comice, Duchess, Lawrence, Louise Bonne, Onondaga, Passe Colmar, Sheldon, Urbaniste, Wellington, Winter Nelis.

The first prize for the best collection of new pears was awarded to Marshall P. Wilder, for Bernard Goisneau, Mima Wilder, Grace Wilder, and Eddie Wilder.

The prizes for the best twenty varieties of apples were awarded: 1st, to Asa Clement, for Pound Sweet, Foster Sweet, Lyscom, Summer Sweet Paradise, Danvers Winter Sweet, Foundling, Pumpkin Sweet, Kilham Hill, Gravenstein President, Hubbardston, Cole's Quince, Porter, Williams, Northern Spy, Holden Pippin, Mother, Roxbury Russet, Baldwin and Nodhead; 2d, to J. H. Fenno, for Golden Russet, Queen of the Orchard, Seaver Sweet, Rhode Island Greening, Porter, Challenge Sweet, Baldwin, Summer Pippin, Maiden's Blush, Williams, Alexander, Drap d'Or, Roxbury Russet, Hubbardston, Gravenstein, Minister, Danvers Winter Sweet, Dutch Codlin, Northern Spy, Orange Sweet; 3d, to Hovey & Co., for Sykehouse Russet, Alfriston, Kerry Pippin, Cullasaga, Coe's Golden Drop, Hormead Pearmain, White Doctor, Striped Pearmain, Bickley's White Sweet, Wormsley Pippin, Humrickhouse, Porter, Pennock, Scarlet Pearmain, Cooper, Smith's Cider, Cole's Quince, Golden Russet, Tufts, and Tompkins County King.

Mrs. T. W. Ward showed a fine collection of plums, and also received the first premium for a single dish, the variety being Jefferson; 2d, to S. Pratt, for Coe's Golden Drop; 3d, to Stiles Frost, for Reine Claude de Bavay. Amos Bates also exhibited a good collection of plums.

The handsomest peaches shown were a magnificent dish of Crawford's Early, from H. H. Hunnewell, grown under glass. John Falconer showed a very handsome collection of Stanwick and other nectarines, peaches, and plums from his orchard house. His Albert Victor nectarines were very fine. Mrs. E. M. Gill showed good specimens of Foster's seedling peach; J. L. D. Sullivan a seedling white nectarine of excellent quality, and E. Brock and George Johnson handsome nectarines.

F. L. Ames exhibited two bunches of Victoria Hamburg grapes weighing 5½ and 4¼ lbs., the largest we have ever seen—and handsome Bowood Muscats, Muscat Hamburgs and Black Hamburgs. E. W. Wood exhibited Black Hamburgs, Victoria Hamburgs, Wilmot's Hamburgs, Buckland Sweetwaters and White Frontignans; and Mrs. T. W. Ward, Black Hamburgs, Wilmot's Hamburgs and others, both these collections being well grown and finely colored. C. M. Atkinson also exhibited an excellent collection of six varieties, including Grizzly and White Frontignan, White Sweetwater and others.

Of native grapes, the Moore's Early, exhibited by the originator, John B. Moore, was probably the ripest shown, and received the prize for the "best of any other sort" than those specified in the schedule. A handsome collection of twelve seedling varieties was shown by E. W. Bull, but too unripe to

judge of their quality. John Fillebrown showed a wild grape with a remarkably large and handsome cluster. Josiah Newhall, Miss Lucy Bowditch, and Walker & Co., showed good specimens of figs. A. J. Hillbourn, Sicilian nuts (filberts), and John B. Moore, Hornet raspberries. A dish of Orange pears from a tree in Salem, 235 years old, attracted much attention. This venerable tree is more than three feet in diameter and forty feet high, and bore 8½ bushels last year and 3 bushels this year. Of pears, 527 dishes were shown; apples, 257 dishes, and of all kinds of fruit, a total of about 1,000.

The show of vegetables was so uniformly good, that it is difficult to particularize. Perhaps the most interesting collections were the new varieties of potatoes, from B. K. Bliss & Son, of New York, and E. S. Brownell, of Essex Junction, Vt. Messrs. Bliss exhibited the Snowflake and Alpha, the latter said to be ten days earlier than Early Rose, and also the Conqueror tomato, claimed to be ten days earlier than any other. Mr. Brownell exhibited Early Nonsuch, Eureka, Brownell's Beauty (also specimens of the crop of 1873) and Early Rose. Several kinds in both these collections were exhibited for the Whitcomb prize of $200, for the best seedling potato, to be awarded four years hence. J. J. H. Gregory exhibited a new squash which he deems superior to the Marblehead, of light green color mottled with white, and having a very hard shell.

The principal prizes for plants were: 1st, to William Gray Jr., for the best twelve greenhouse and stove plants, one of the best grown collections in the hall, comprising Bonapartea juncea, B. gracilis, B. filifera, Yucca aloifolia variegata, Dracæna arborea, Phenix reclinata, Latania borbonica, Cocos plumosa, Chamædora elegantissima, Phormium tenax var., Chamærops excelsa, and Agave univittata; 2d prize for the same to Hovey & Co., whose collection included a very fine specimen of Dracæna Veitchii, fifteen feet high; a Pandanus ornatus, extra fine; P. reflexus, a splendid P. elegantissimus, a very fine Chamærops Fortunei, Cocos coronatus, etc.

The 1st prize for specimen plant, not variegated, was awarded to W. Gray Jr., for a very fine Yucca recurva; 2d, to Hovey & Co., for Pandanus Vandermeerschi. For the best specimen flowering plant to Mrs. T. W. Ward, for Stigmaphyllon ciliatum; 2d, to Hovey & Co., for Allamanda Hendersonii.

For the best six variegated leaved plants to James Comley, for an unusually fine collection, comprising Abutilon niveum variegatum, Dracæna Chelsoni, Croton Veitchii, C. Weismannii, Phormium Colensoi var. and Dieffenbachia Bausei; 2d prize to Hovey & Co. For the best specimen variegated plant to F. L. Ames, for an unusually fine Cissus discolor; 2d, to W. Gray Jr., for Phormium Colensoi var. F. L. Ames and Hovey & Co. received the 1st and 2d prizes respectively, for Caladiums, both collections being very fine.

For the best twelve ferns, the prize was awarded to William Edgar, gardener to Hon. William Claflin, for Adiantum Farleyense, A. cuneatum, A. formosum, A. concinnum, A. amabile, Gleichenia Speluncæ, Pteris serrulata major magnifica, Cyathea princeps, C. regale, C. Schiedei, Gymnogramma Peruviana argyrophylla and G. calomelanos; 2d prize to J. W. Merrill, for Adiantum scutum, Cibotium Schiedei, Davallia ornata, Dicksonia antarctica, Dictyogramma Japonica (new), Gymnogramma Wettenhalliana, Lygodium circinale (new), L. scandens, L. palmatum, Notholæna rufa (new), Polypodium cuspidatum (new), and Pteris tricolor. Both these collections were exceedingly beautiful. Mr. Claflin's plants were larger, but Mr. Merrill's included several new varieties.

The 1st prize for six ferns was awarded to Joseph Clark, gardener to Mrs. Ward, for a very handsome plant of Lygodium scandens, Adiantum trapeziforme, a magnificent plant, three feet in diameter; A. macrophyllum, a peculiarly attractive species, having the young fronds tipped with reddish chocolate, etc.; 2d prize to J. W. Merrill, for Nephrolepis Yollingerianum, and other new and noticeable kinds.

For Lycopods, the 1st prize was awarded

to William Claflin, for a very fine collection; 2d, to Walsh Brothers, whose plants though smaller, were distinct. Hovey & Co. received the 1st prize for Dracænas and also for Palms, including a very fine specimen of Seaforthia elegans, fifteen feet high; 2d prize for Palms to Wm. Gray Jr. The prize for the best new pot plant was awarded to C. S. Sargent, for Cocos Weddelliana, a new dwarf palm for table decoration.

Messrs. Hovey & Co.'s large palms added very much to the general appearance of the exhibition. They deserve great credit for their exhibition of plants, filling five stands, besides a fine collection of evergreens for which they received the Hunnewell prize.

L. Menand, of Albany, N. Y., filled two stands in the center of the hall with a fine collection of plants, among which were two excellent specimens of Araucaria Bidwilliana, Bonapartea (Dasylirion) glauca, B. histrix compacta, Zamia (Encephalartos) l'Hommeii, Pilocereus senilis from Mexico, and a plant raised from a cutting of the same, much less hairy, Phalænopsis grandiflora aurea, a rare and beautiful orchid; Cypripedium Lowii, Cycas Kinmonianum, Agave Verschaffeltii and A. Xalapensis, both fine specimens, Retinospora obtusa, variety nana variegata, R. lycopodioides variegata and Camellia Japonica fol. var. We do not recollect ever to have seen a collection of plants brought so far as Mr. Menand's, but notwithstanding the long journey, they arrived in perfect condition, and were greatly admired. They were carefully labelled with the names of their native countries, which added much to their interest.

Mr. Hunnewell's beautiful collection of evergreens comprised sixty varieties of every color, from the delicate glaucous hue of Retinospora decussata, to the golden tipped Thuya George Peabody, Retinospora obtusa aurea, and R. picifera aurea; and every form from the fine foliage of Thuya Youngiana and Cryptomeria elegans to the coral-like branches of the Araucarias. Among the most striking kinds were Biota elegantissima, Cupressus Lawsoni and erecta viridis, Cephalotaxus drupacea, Retinospora squamosa, Araucaria Cookii and A. imbricata. Among the new and rare plants shown by James Comley, were Cupania filicifolia, Aralia Veitchii, Cyanophyllum Bowmanni, Dioscorea illustrata, new Caladiums, Coleus, Cissus, Crotons, Begonias, etc. James McTear exhibited Desmodium pendulifolia, said to be hardy.

Fine collections of dahlias were shown by George Everett, Macey Randall and S. G. Stone. The cut flowers were contributed by John Parker, G. A. Law, James Comley, James O'Brien, A. McLaren, W. H. Spooner, C. H. B. Breck, and were better kept up than ever before. Mr. Breck also showed a fine collection of Lycopods, Caladiums, Coleus, Crotons and other hot-house plants. James Nugent contributed two large bouquets for the Bradlee vases. Baskets of flowers, bouquets and designs were contributed by Mrs. E. M. Gill, James Nugent, Miss S. W. Story, Mrs. A. D. Wood, Hovey & Co., Mrs. S. Joyce and M. W. Pray—Mrs. Wood's table design being particularly admired. Mrs. C. S. Horner exhibited a beautiful stand of wild flowers, and Henry Youell, Richard Allison, and James Lester designs for laying out flower gardens. On the stage were arranged collections of rare and curious cacti, sempervivums, echeverias, and other succulents from L. Guerineau, Hovey & Co. and John C. Hovey, and of Agaves from C. S. Sargent.

At Horticultural Hall, George Craft exhibited a large and beautiful stand of gladioli, and John Cadness, of Flushing, N. Y., a profusion of flowers of the new Hydrangea paniculata flore pleno. Plants for the decoration of the fruit tables were also contributed by Hovey & Co. and John L. Bird. R. M.

Juniperus Excelsa Stricta.—This new evergreen shrub is recommended by the English journals for planting on terraces and in similar situations. Its form is pyramidal and elegant, the color of its leaves silvery; the young plants are very striking.

For roses it is found that the briar is the best stock on a clay soil, and the Marietti stock on a sandy or light soil.

The Greenhouse.

Greenhouse for November.

THE Greenhouse will be the principal point of attraction during the present month; for, excepting a few Chrysanthemums in sheltered nooks, there will be few flowers remaining out of doors in the north and middle States; so that every attention should be paid to keeping the house as neat and attractive as possible, by attention to clean pots, and removing dead leaves, and placing the most attractive flowering and foliage plants in the best position. Now is also a good time to carefully examine all plants likely to be infected with insects. There is usually more leisure for that kind of work at this season, and most plants having completed their growth, will bear more handling without injuring the foliage, than at an earlier date.

Camellias should be sponged over the foliage to remove dust, before the flowers commence to open; it not only improves the appearance of the plants, but is a great benefit also. If any of the plants have traces of red spider, some sulphur and whale oil soap should be mixed in the water used; for nothing but dust, clean water is best.

Azaleas must be kept cool if required to flower late; and although at this season, when at rest, they do not require frequent watering, care must be taken that the plants do not get very dry, and that a good soaking is given when required. Young plants, and any required to flower very early, must be placed in the warm part of the house; but in this, especially, thrip will require guarding against, or much damage will be done. But all the plants should have a thorough washing with soap and tobacco water at this season, as previously recommended. This will usually prevent much trouble from insects during the succeeding season, unless the plants are neglected.

Bouvardias must be placed in the warm part of house, if expected to flower well. If the house is not kept above 50° at night, little beauty must be expected from these plants. With careful watering and a regular heat these plants are easily grown, and will be free from insects; but if the heat is irregular and infested plants are near, nothing becomes more dirty; but if grown in a very high temperature, the flower lasts but a short time after being cut. This also applies to many other winter flowers and foliage when cut.

Orchids.—We have received so many inquiries about this interesting class of plants, which it takes too much time to answer separately, that we considered a few general hints would be acceptable to our readers, without devoting a long paragraph to an individual species. Dendrobrums will have completed their growth for the season, and must be placed in the full sun and kept dry, but not allowed to shrivel, or the flower will be small. The principal thing is to get a good, strong growth, and to well ripen it, when the plants will be sure to flower. Cattlegas will have finished growing, except the Trianæ varieties, which flower during the winter from the young growth. These all require plenty of light, and to be kept moderately dry; but in this climate few species require to be kept so dry as in England, especially when grown on blocks. Oncidium, Cavendishii, and Ornithorhyncum will now be in flower, and must be placed in shade from bright sun, or the flowers will soon fade. The crinitum varieties of Zygopetalon will be in flower, and must be watered when required. These are fine and easily grown, and the flowers last a long time in full beauty.

Cypripedium Insigne is one of the best winter flowering plants we have, and requires no special treatment. It will grow and flower well in any greenhouse. We usually grow our plants in the Camellia house, and remove them to a house a trifle warmer about this time. The flowers of this species will last for three months in a greenhouse or sitting-room. These plants must never get very dry, although in a cool house at this season they do not require watering often. Most of the other species of Cypripedium require a little more heat than the above, and are chiefly summer bloomers, except Rœzli which in strong plants will flower all the year.

Lælias are splendid winter orchids, such as anceps, Superbiens Autumnalis, Acuminata, and Albida, can all be depended on for winter flowers, and grow best in a cool house. These last for a very long time in full beauty, with little attention. Stanhopeas, if grown in baskets, will require no water for several weeks; if grown on blocks, must be soaked in tepid water occasionally. We may mention that it is necessary to grow these plants either on blocks or in baskets, for the flower spikes come from the bottom of the plant, and if grown in pots has not power to develop itself. All this class of plants is subject to a small, white scale insect, which must be removed by occasional sponging with water.

Chinese Primulas will now be in flower. These plants require careful watering. If wet over the foliage, they often rot off at the surface of the pot. The double white variety is one of the most useful winter flowering plants grown.

Cinerarias require to be kept cool, in a damp part of the house, for in a dry atmosphere they are very subject to thrip, red spider, and green fly, and will require gentle fumigating with tobacco, but are easily injured if the smoke is very strong and hot.

Verbenas must be kept cool, and well supplied with water. A little frost does these plants less harm than a hot dry house. These plants should be fumigated once each week, as a preventive,

Pelargoniums and Geraniums must not be over watered, and receive as much ventilation as possible, without exposure to cold, drying winds, which would brown the edges of the leaves.

Bromeliæcans Plants.—In reply to a correspondent, and thinking it might also interest others of our readers, we give a few notes on the culture of these curious plants. First, it must be noted that all the finest plants of this genus are natives of the tropics, principally growing on trees and rocks in South America and the West Indies, although the well-known, so called, moss found growing on the trees in the Florida swamps, can scarcely be called a tropical plant. There are also a few other larger growing species found in the southern states, growing on trees, but these are of little beauty in the eyes of the general cultivator, the flowers being small and of a dull color. These plants are seldom seen in any but botanical collections, but can easily be grown on blocks of wood in any ordinary greenhouse. We may mention that all the various genus, in the above natural order, require the same treatment, excepting a few of the very strong growing sorts, such as Bromelia Karati, and a few others, which in growth so nearly represent the common pine apple, without any valuable fruit, that they are seldom grown. The above-mentioned species thrive with the same treatment given to the pine apple, and need not be mentioned in this article. The Nidularias, Achmeas, Vresias, Bilbergias, and Tillandsias, aré all more or less curious and interesting. Some, such as Achmea Zebrina, have variegated leaves, so nearly the color of a rattle snake, that some of our visitors on first seeing the plant have started under the impression that one of those reptiles had free quarters among the plants; others, such as the Nidularias, have the top foliage of a bright color, and the Tillandsias and Bilbergias have the flowers and floral leaves of the most brilliant and delicate color.

The cultivation of these plants is very simple; in fact, if allowed to scramble over a rock work in the full sun of a tropical house, they will take care of themselves; but as few of our readers can spare a place for that purpose, we will give a few notes on cultivation in pots. Achmea Zebrina is a capital plant to grow on the surface of large Aerieles and Vanda pans; it fills the spagnum with roots, and flourishes to perfection. The remaining species we grow in pots; five and six inch sizes are usually large enough, for these plants do not require much pot room, and but little soil, being generally found growing among moss on trees and decayed stumps. The soil best suited for the plants is rough peat and moss in about equal parts, with the addition of some sand, grit, or charcoal. The pots require to be well drained, so that water may pass freely, for the plants require a good quan-

tity during the summer, and to be well syringed. In the winter little water need be given, and if in a cool house, must be kept quite dry, and the water not allowed to settle in the crowns, or the heart will decay. In a hot, dry house, the water which collects in the crown like a cup is of advantage, being the natural reservoir to supply the wants of the plant in the dry hot weather of its native locality. Some of the species will make two growths, and flower twice during the year; at the same time there is usually another shoot starting from the bottom to take the place of the one which has flowered, which, like the pine apple plant, only fruits once from same growth. At any time after flowering the old shoot may be cut clean away, but we usually allow the young growth to be well advanced before doing so; frequently there will be roots formed on the young growth; but if not, it can be cut clean away from the old stem and put in a small pot, it will soon form roots if kept rather dry and hot for a time. Frequently there will be other shoots come from the old stump, which may be preserved if desirable for that purpose. The plant gets on one side from each fresh growth, or it would continue to grow and flower from same pot, without disturbing, for a number of years. A small white scale is sometimes troublesome, and must be cleansed away before it becomes established, or the plants had better be thrown away.

Pot Roses, excepting a few required for early flowering, these are best kept in a cold frame, where no watering will be required; those advancing into young growth must have careful watering, and be dusted with sulphur if mildew is seen; in fact, a sprinkle of sulphur is a good preventive, and a light fumigation with tobacco will prevent green fly.

Baskets.—The most desirable plants for winter baskets, either for rooms or greenhouse, are Echeverias and Epiphyllums, the earlier varieties of the latter will be now commencing to flower. These plants require very little attention, and are always satisfactory.

Crassula Lactea must now be allowed to get rather dry, and have the full sun, or it will not flower much. Eucharis must be also kept rather dry for a few weeks, but not enough to lose its foliage. If the plant is in good condition, and it has a brisk heat, it will flower well at the New Year.

Gesnerias, of the Zebrina class, if grown in a warm house will now be in full beauty, and make a fine show. They require liberal watering at this season, but be careful not to wet the foliage.

Grape Vines, if grown on the roof of greenhouse may be now pruned, and the stems painted with clay and sulphur. This is the best preventive for mildew, which is very troublesome among European vines in this country. The vines should be turned down to the coolest part of the house, to prevent premature breaking of the buds.

Conservatory Climbers.—The Dipladenia.—Dipladenia is one of the modern favorites in the list of conservatory climbers. The *Gardener's Record* thinks too much prominence cannot be given to it; for, "like many climbing plants, it blooms best when grown prominently forward near to the glass, and perhaps to perfection near to the roof of an intermediate house, with general temperature not below about 55°. Dipladenias are natives of Central America, and belong to the order of Dogbanes, a name given by Dr. Lindley to a certain class of plants, which I believe Linnæus described as having contorted or twisted-like flowers, with corollas resembling a catherine-wheel firework in motion. To this family belong the Periwinkle, the Oleander, etc. With twining habit, and large graceful flowers nearly five inches in diameter, in form like a Convolvulus, and with color varying from pale pink or French white, to clear delicate rosy pink, I know not any more lovely climbing plant for summer, and what is commonly called early autumn. It may be grown from layers, from cuttings, and from seed.

Double Blue Pæonies.—These are supposed to be genuine plants of Blue Pæonies in existence in China; for Chinese drawings have made their way to England, and are in the possession of an English horticulturist.

Travels.

A Remarkable Collection of New Hybrid Grapes.

BY HENRY T. WILLIAMS.

IT was the writer's fortune this fall to examine a collection of new hybrid grapes, of such remarkable characteristics and superior excellence, that one may be justified in calling it the choicest now extant in America.

Ten years since, Mr. James H. Ricketts, of Newburgh, N. Y., owning a little cottage and garden on the hillside in the city, with practical love of horticulture, in the leisure moments spared from his business occupation, began the study and experiment of hybridizing grapes, both native with foreign, and foreign with each other, and testing their seedlings in the open air. If there were any place more unfavorable for such a test, we have never seen it. In the summer time with exposure to intense heat; in the winter to severe cold, with ground poor, and sloping to the northeast, it seemed as if any vine that succeeded here, ought, in all fairness, to do well in the average climate of the United States. His experiments have yearly grown in interest, and the fame of some of his successes have already been known to some of the most observant horticulturists; still it has remained to the trials of the present fall, to give a reliable verdict. His methods of hybridizing are, of course, known only to himself, but all kinds of experiments have been tried, the pollen sometimes being kept till two or three weeks old, and then applied. Again, the caps have been taken off four days in advance of the time usually taken by nature. One other person in Canada, pursuing his trials, studies and experiments in almost the same track, has yet made a complete failure in every case, and where the secret of Mr. Ricketts' success can be, doth not yet appear. It is sufficient only to judge of the results as we now find them. Mr. Ricketts' collection may be divided into three classes: 1. Black grapes. 2. White grapes. 3. Wine grapes. There are now seventy-five seedlings in all growing in his garden, and of them all, we may truthfully say, not one is an inferior variety. A large portion of these vines are but two years old, some three to four, while but few are older. Still, the sorts which exhibit most marked excellence, are the older varieties, and the newer ones develop traits more valuable with each year of increasing age. About one-quarter of the collection may be classed fully as hardy as the Concord, and the rest not yet fully determined, although they have all been largely exposed to the winter for the past two years, without suffering injury.

The *Secretary* is a large, beautiful black grape, which has already become known. It originated with Mr. Ricketts in 1867. The original vine fruited the next year after the seed was planted. It is a seedling from the Clinton and Muscat Hamburgh. A large vine is trained upon a trellis near Mr. Ricketts' house, and some of the bunches were nearly a foot long, and well shouldered, the flavor is excellent, sweet, vinous, bunch hangs well, berry firm; good market sort.

It is a little curious to note here the following incident: Mr. Ricketts taking one day to Charles Downing seven of his seedlings, and requesting an opinion, was surprised and delighted to find him class five of them as better in flavor than the Muscat Hamburgh itself. An opinion from so high a source gives decided character to the value of the collection.

The finest white grape of the collection is No. 93 *A*, *Imperial*, a white seedling from Iona and Sarbelle Muscat. The berry is very large, of a fine white color, with considerable bloom; bunch quite large, regular, with slight shoulder; no pulp, no seeds, splendid flavor, with traces of the Iona-Muscat aroma. Vine exceedingly vigorous grower; ripens about time of the Isabella; oldest plant is now four years. Mr. Ricketts has given me the pleasure of bestowing upon it a becoming name, which in honor of its superior merit, I now name "The Imperial," for it seems thus far to be the best white out-door grape yet originated. Perhaps its most valuable feature is its hardiness; standing the winter well, when Concord was killed.

No. 207, *H*—White grape, slightly yellow, quite sweet, thick pulp, bunch nearly as large as the Catawba. A seedling from Concord and Allen. Vine now two years from seed, and bearing this season five bunches; fully as productive as the Rebecca. From the same origin came other seedlings. all of uniform excellence.

No. 72 *B*—A seedling from Hartford Prolific. Black, rich, red pulp, musky flavor, sweet, pulp small, very productive, ripens between the Concord and Isabella.

Don Juan—A very large bunch, amber berry. Parent, Jena and General Marmorica; very hardy, ripens with Isabella, vinous, but not very sweet, bears a few very large bunches.

No. 37—Vine is four years old; bears forty bunches this season; extra large berry; a seedling from Concord and Jury Muscat, exceedingly productive, a good market grape, carries well, berry firm, soft pulp, flavor fair, not sweet, a very strong growing sort.

No. 176—Dark amber color, six weeks earlier than Iona, flavor sweet and richer than Iona, a seedling from Delaware, but has more life and spirit than its parent; in size of bunch also superior.

Clinton Seedling, No. 6—Foliage wonderfully hardy, thick pulp, slightly acid, but exhibits strong vinous quality, and in the wine scale test, it ranks ahead of the Delaware; immensely productive.

No. 186—White, seedling from Clinton, considered a good wine grape, large berry.

No. 207, *B*—A capital eating grape, white, sweet, very hardy, extra stout canes, beautiful colored fruit, bunch moderate size, loose but well shouldered.

No. 12, *B*—Black, bunch extra large, one foot long, one shoot often bearing three bunches, strong canes, wonderfully hardy, moderately sweet and vinous, thick pulp, consider it an extra good variety; the sweetest grown in the collection.

No. 12, *A*—Has more juice, less pulp, and really more enjoyable as a family grape.

Adelaide—Black, sweet, vinous, strong, heavy foliage, thick leaf, as large a berry as the Union Village, good bunch, very productive.

Ricketts' No. 1—Plump berry, very large, long bunch, very firm, keeps growing till cut off, not a sweet flavor, still not acid.

No. 157, *D*—White, seedling from Concord, earlier than the Hartford by ten days to two weeks, thin skin, large berry, round bunch, sweet flavor, juicy, wood like the Concord, very hardy.

No. 157, *A*—A brother of 157, *D*—very late.

No. 158, *B*—Black, transparent, loose bunch, large, excellent flavor, juicy, quite as good as Senasqua.

No. 14—White, seedling from Israella and White Tokay, ripens with Isabella, largest of all the white varieties; hangs firmly, both bunch and berry firm, tough skin, quite sweet, bunches extra large, some will weigh nearly two pounds; really a first-class variety.

Quassaic—Black, very regular bunch, a seedling from Clinton and Muscat Hamburgh; novel flavor; a trace of the Clinton, but more pleasant; no more acid than is agreeable; its fine looks and its firmness are its best characteristics; one of the prettiest vines ever seen, filled with large bunches; one vine has grown as much as 25 feet from young plant in a year.

Concord, No. 1—Enormous berries, each a mouthful, flavor moderately vinous and sweet; when well ripened, quite pleasant; large, well shouldered bunches, moderately productive.

Raritan—An accidental seedling; best wine grape in the world; was tested with thirty and forty others, including Delaware and Walter, and ranked 112°; The Walter marked 3½ per cent. acid; Raritan marked six per cent. No European variety has ever ranked as high in the wine scale as this.

No. 10—Very good flavor, juicy, large plump berry, hangs on firmly, tough skin; seedling from Hartford and Purple Damascus.

Advance—A natural wine grape; the only wine grape which has a natural effervescence; a good eating grape, very regular bunch, large berries, black, tremendously vigorous, hardy, and astonishingly productive; a first-class vine.

In view of the fact, that the Iona does not

succeed here, and the Diana has to be plucked off, so as to leave but one bunch to a shoot, to ripen well, it seems as if vines like those described above, with such excellent flavor and vigorous characteristics, must be destined to a celebrity of more enduring character than the average of new American varieties. From our own personal examination, we can honestly state, not one of all the white sorts exhibits a flavor as inferior as the Martha, and are uniformly larger in berry and bunch. Neither was any white variety less pleasant than the Croton in flavor, and but one possessed a slight musky perfume of the black grape; neither was inferior to Concord, although many not as sweet; while even if no other sorts were deemed valuable as table grapes, the acquisition alone of *Raritan* and *Advance* as wine grapes, would mark an era in the grape history of the United States.

It is necessary to express all opinions with caution, for the history of horticulture in the United States has too many records of death-blows to enthusiasm over new fruits which fail when transferred to localities beyond the place of origin; yet, every active horticulturist will rejoice with pleasure at such signal advance in so new and promising addition to the pomological treasures of the country. Mr. Ricketts' collection is a valuable one financially—$10,000 would be a fair estimate of its worth, and we trust they will soon be disseminated and he will receive their full value.

Conservatory Climbers.—*Beaumontia grandiflora*, one of the most magnificent climbing plants in cultivation. It is a native of the East Indies, and is frequently treated as a stove plant. Indeed, I have had it myself in a stove for years, but never succeeded in flowering it there, though I tried all I knew. On this account I turned it out in a conservatory border, giving it abundance of drainage, and a soil composed of rich turfy loam and fibrous peat in equal parts, with a liberal addition of charcoal and silver sand. The leading shoots were not stopped till they had filled their allotted space, but the side shoots were kept pruned to one eye from the old wood, thus inducing the formation of spurs. Under this treatment it never failed to produce an exuberance of its lovely white trumpet-shaped blossoms.

The genus *Kennedya* contains several very beautiful climbing plants, of which *K. Marryatta* and *K. Macrophylla*, are two of the best. It is scarcely necessary for me to refer to their management, as they will grow and flower under almost any circumstances, at least such has been my experience of them. I have grown them in peat and sand, in loam and sand, and in a mixture of all three, and they did equally well in each case. *Hardenbergia Comptoniana*, which is closely allied to the genus *Kennedya*, is another very handsome climber, and well worthy of cultivation. *Zichya coccinea*, another near ally of *Kennedya*, is also deserving of attention.

Ipomæa Learii—This is a most charming plant, and no conservatory or greenhouse where climbers are grown should be without it. It is a most rapid growing plant, covering an immense surface, and ramifying into an astonishing number of strong, healthy branches. Where this plant is trained to the roof of a house for shade, and where it is merely fastened beneath the rafters in a general way, it should always be supported by wires running parallel to the direction in which it grows, and by tying or nailing it up according to the usual practice. Its twining habit renders it desirable that it should have something round which the branches can coil, and stout wire or slender rods afford this desideratum. When the blossoms commence expanding, they require to be screened from the more powerful rays of the sun. Opening in the morning, they change color and fade long before midday if exposed to the solar rays, but when they are brought below the foliage, the latter is commonly sufficient to protect them. It succeeds well in a soil composed of equal parts rich turfy loam and leaf-mould, and requires a good share of root room. *I. mutablis* and *I. pulchella* are also two desirable species, requiring somewhat similar treatment.—*Gardener.*

The Pleasure Ground.

Miniature Gardening.

An Evergreenery.

BY ANDREW S. FULLER.

THE word "Evergreenery" may be hardly proper; but I can find no other which suits my purpose so well or will better convey an idea of the thing I propose to describe. *Arboretum* is a higher sounding word, but not applicable, inasmuch as it means a collection of both deciduous as well as evergreen trees.

There are many persons residing in the suburbs of our large cities and villages who own but a small plot of land, frequently not more than one or two city lots; consequently they seldom attempt much more in the way of ornamental gardening than to set out a few cheap bedding plants or sow seeds of common annuals, on account, as they suppose, of lack of room to do anything better. It is to this class in particular that I recommend the miniature evergreens; while others, who have plenty of land and means, can use the larger kinds in addition.

There was a time, not long ago, that to talk of a variety of evergreen trees or shrubs suggested extensive grounds; but, happily for those with limited means, and gardens, those days are past, and now those with a few rods square of land may deal with pearls and diamonds, leaving the coarse and lofty materials to the more fortunate possessors of extended acres. During the last decade or two our horticulturists have been picking up here and there in various parts of the world many rare species and varieties of dwarf evergreen trees and shrubs, until the most enterprising among them have extensive collections of this kind, with which a most elegant display of rich and varied foliage may be made even in a very small garden.

The value of these miniature evergreens for small gardens can scarcely be over-estimated—not only on account of their permanent beauty, but their appropriateness for just such places seems to harmonize with the modern ideas of high art in gardening.

The fitness of things in general is seldom studied or thought of by the masses when trying to arrange the little garden-plot in front or elsewhere about their dwellings. Hence, the frequent planting of giant pines and spruces by the dozen within limits which would not suffice for one full grown tree.

I do not believe our people are so stupid or stubborn that they will refuse to accept a good thing when it is shown them; but fine examples of grouping dwarf or other evergreens are exceedingly scarce, even under the very circumstances where one would naturally expect to find them most abundant.

Once let the small evergreens become popular for grounds of limited extent, or, in other words, awaken sufficient interest in the subject to provoke inquiries in regard to the adaptation of plants to places, and the far too general practice of setting out trees for immediate effect, without the least thought as to their appearance in the future, will soon become one of the follies of the past.

To put the subject in a more practical form. I will suppose a man has but a small plot in his garden which can be spared for this purpose—say a bed ten feet wide and twenty or thirty long. Now, two of the larger growing evergreen trees, like the Norway spruce, would soon fill this space; but, if the dwarf kinds are taken instead, two or three dozen could be planted therein without crowding, affording an opportunity of introducing a very pleasing variety, besides being appropriate, which always indicates a high order of taste.

Another advantage in cultivating the dwarf evergreens is that, should any of the species or varieties be somewhat tender in cold northern localities, they are readily protected in winter, which is not the case with larger growing kinds.

Those named in the following list are all quite hardy in the vicinity of New York city, although in a few instances the foliage becomes somewhat faded during very cold weather. A slight protection, just enough to

afford shade during winter, will prevent injury.

Arbor vitæ.—Of the American Arbor vitæ (*Thuja occidentalis*) there are several beautiful dwarf varieties, well suited to cultivation in small gardens.

Booth's dwarf is a very neat, compact bush, and of a lively, cheerful shade of green.

Globosa is, as its name indicates, globular in form, and the foliage of a deep rich green color. Plants in my ground, fifteen years old, are three feet in diameter, and about the same in height, and as perfect as though turned in a lathe.

Ericoides is a very pretty variety, with very fine, soft leaves, like a Heath; hence its name.

Tom Thumb is one of the most curious as well as beautiful varieties ever raised from our native species. It assumes a somewhat conical form and its leaves are soft and fine. It browns in winter unless shaded.

Lutea, or American Golden, is a new dwarf variety, with the ends of the branches of a clear, bright golden color. It is very hardy, and the rich golden color of its leaves gives a pleasing contrast with the dark green of other kinds when planted in groups.

Argentea, or Silver-tipped Arbor vitæ. This is a very pretty variety, with the branches tipped with white.

Eastern Arbor vitæs (*Biota orientalis*). —Of these there are also many beautiful varieties; but as a class they are not as hardy as our native sorts. Still some of them are worthy of a place even in the choicest collections.

The Chinese Golden Arbor vitæ is a very pretty variety, with fine foliage of a light yellowish green. Another variety, known as the "Elegant" (*B. elegantissima*), has the branchlets tipped with golden yellow. Melden's Arbor vitæ (*B. Meldensis*) has very fine soft leaves, similar to the Tom Thumb, but not quite as deep and rich in color. In winter, unless protected from the sun, the leaves change to a brown or reddish color.

Junipers.—This genus furnishes us some very desirable dwarf species and varieties. The common Savin (*Juniperus sabina*) and the variegated-leaved variety are two of the best for small gardens, as they are low, compact growing shrubs, with fine, handsome foliage. The Trailing or Creeping Juniper (*J. squamata*) and Tamarack-leaved (*J. sabinoides*) should always be planted at the extreme outer edge of a group, as they creep over the ground or form a very dense, low bush. They are very hardy, handsome, and desirable.

Taxus, or Yews.—Few plants have been more praised in prose and poetry than the Yew, and it deserves all that it has received. It is scarce in the gardens of this country, owing perhaps to its conservative character, there being none of the rapid-growing "spread-eagle" habit about the Yews which is so "taking" among our people. But it is to be hoped, in the good time coming when we think as well as act in all matters pertaining to homes and their surroundings, the Yew, which is the personification of fixedness of purpose and steady habits, will become as popular in this country as it ever was and is in Europe, and we shall be able to say of men and their gardens: "Well do I know thee by thy trusty Yew."

I will not try to discriminate between the dozen species and varieties cultivated by our nurserymen, because one can scarcely go amiss in selecting one or more, as all are suitable for small gardens, none growing very large during a lifetime; and, should a specimen pass beyond prescribed limits, the pruning knife or shears may be freely used in bringing it back. There are golden and variegated-leaved varieties, in strong contrast with the dark green foliage of the parent species. Our native Yew (*T. Canadensis*) should never be omitted from the list of dwarf evergreens. Its deep green foliage and bright red berries in autumn are merits which place it high in the estimation of all lovers of beautiful plants.

Pines.—There are few of the true pines which are admissible in a small garden or in a group of evergreens such as I have proposed. Mugho Pine (*Pinus Mugho*), from the

mountains of Central Europe, may, however, be introduced as a dwarf, although an occasional specimen will assume the tree form, instead of remaining a dwarf shrub. A handsome specimen in my garden, fifteen years old, is only about two feet high and four in diameter. If a plant inclines to grow too tall, it may be kept down by cutting off the leading shoots. Another variety, called the "Knee Pine," never grows on its native mountains (the Alps) more than three feet high.

Retinosporas.—We are indebted to Japan for these beautiful little evergreens, although but few of them are hardy in this latitude. The most desirable among the hardy sorts is *R. aurea-plumosa*, the foliage of which is soft, fine, and of a brilliant golden color, fully sustaining its name of "golden plume." I fear that few persons will be satisfied with a single plant of this in a group, for, when dotted here and there among the dark-colored foliage of other kinds, they seem to give light and life to the picture, the strong and striking contrast adding much to the beauty and brilliancy of both.

Spruces.—Like the pines, there are comparatively few spruces sufficiently dwarf in habit for the city or village garden. But the few that are suitable are gems of their kind, and the most beautiful of all is a native of New York State, having been found upon the banks of the Hudson, a few years ago. It is known as the Weeping Hemlock, and may be considered to be among the evergreens what the Weeping Willow is among deciduous trees—*i. e.*, the "Queen of Weepers." I regret, however, to add that it is still scarce and not yet in market, but probably will be very soon.

There are also several varieties of the spruce of a very dwarf habit. One known as the "Pigmy" resembles the Norway Spruce in everything except size—a full-grown specimen scarcely exceeding three feet in height. Another variety, called *Gregoryana*, forms a neat little dense ball of green, one to three feet in diameter and about the same in height.

There are also many other varieties belonging to the same genera or species as those named above; but I have named enough to show that there is no lack of materials with which to satisfy those who may desire to make a fine display. But, as I have already hinted, there are other evergreen shrubs, not belonging to the "cone-bearing" section, which should not be omitted in forming groups, either large or small; and first on the list I would place our native *Kalmias*. The *Kalmia latifolia*, or Broad-leaved Laurel, has no superior among what are termed "broad-leaved evergreens." The unopened pink flower of this plant is a marvel of beauty and symmetrical proportions, and when in full bloom we have no flowering shrub more attractive.

The Narrow-leaved Kalmia (*K. angustifolia*) is much more dwarf in habit, and the flowers are deep red, approaching a crimson, when grown in a half shady situation.

Next to the Kalmias the *Rhododendrons* should come in for a share of attention. They are, however, coarser growing plants, and should be placed in the center or so as to form a background to the less rapid growing kinds. Of course, I refer to the rapid-growing species, like our native *R. maximum* and *R. Catawbiense;* for there are among the exotic species some which are of exceedingly dwarfish habit. The species and varieties are almost innumerable; but comparatively few of them are perfectly hardy or thrive in our changeable climate. Still there are enough of the really superb sorts to satisfy any one who may wish to indulge in cultivating rare or common Rhododendrons.

We have also other kinds of dwarf evergreens—such as *Euonymus*, *Ilex*, *Aucubas*, *Rhodora*, *Daphne*, *Calluna*, and *Mahonias*—which may be appropriately introduced to give variety and add to the richness of large or small plantations. The "Evergreens" may be composed of cheap or costly plants, to suit the purse or taste of the owner, for novelties among evergreens command a high price, as well as in anything else. The costly kinds may be introduced if one can afford it; still the older and cheaper gems are fully as desirable and beautiful as the new and rare.—*The Independent.*

The Flower Garden.

Carpet Gardening.

BY JOSIAH HOOPES.

THIS term, although applied indiscriminately to all manner of flower-beds, is really a very expressive title for the system which employs only the dwarf-growing plants, arranged in intricate patterns, and set so closely as to combine a decided mass of colors and forms. It is distinguished from Ribbon-gardening, as we understand the two terms, by the fact that the latter may be composed of such tall-growing plants as *Abutilon Thompsoni*, *Achyranthus Lindenii*, *Coleus* of sorts, etc., whilst the latter, as we before stated, must be dwarf in habit, either naturally, or else by close planting; and should in all cases be very carefully worked up. It is a disputed point, whether or not this system of gardening is admissible on our lawns; but that it is exceedingly attractive and highly ornamental, there can be but one opinion, It belongs to the highest grade of landscape art, and finds its place properly in the so-called Italian gardens, where all its surroundings are of a formal and precise order. In the company of neatly clipped evergreens, beautiful terraces, elaborate fountains, statuary and vases, the "Carpet-beds" are at once appropriate, and suggestive of beauty in an artistic sense.

The one insurmountable obstacle in the way of its general introduction, is the fact that so great a number of plants are required to form even the smallest sized beds, that the enthusiastic florist calculates with dismay the drain that will have to be made upon his purse before a fine effect can be produced.

Perhaps the finest examples of this peculiar style may be found in the sub-tropical grounds of Battersea Park, near London, where almost every available plant is brought into play, and used in a variety of ways. The system is likewise in vogue at Sydenham, at the South Kensington Gardens, at Kew, and is especially fine at Hampton Court Palace. At the latter place, where great attention has, within the past two or three years, been paid to this feature, may be found the greatest diversity of patterns, although not so elaborate nor so grand as at Battersea. It would be an idle task to undertake to give even general directions how to lay out these beds, and arrange the various plants therein, as the taste of the gardener must here be exercised; but we suggest, as suitable for our climate, the following list of good sorts, that, as a general rule, will succeed in our usually hot, dry summers.

In the first place, we need plenty of *Sempervivums*, of which family our old House-leek is a good illustration.

The so-called *S. Californicum*, which is in in reality *S. calcareum*, is splendidly adapted for this work, as it spreads out well, and the extreme points of the leaves are prettily tinged with dull red. Then we have a neat and very interesting little species called *S. arachnoideum*, or the Spider's-web Houseleek, which proves very conspicuous on account of its white web-like threads intersecting each other in all directions; in some cases completely covering the plant with an exquisite veil.

The *S. tabuliforme* belongs to the larger class of species, but works in well as a central plant, or for forming an inside boundary. *S. globiferum* is likewise one of the best; but in fact, out of so many species belonging to this genus (perhaps seventy-five or eighty in cultivation), it seems invidious to particularize.

The *Sedums* constitute another genus of succulents which are nicely adapted for this work. *S. acre*, the most common species, works well, but requires constant attention to keep it within bounds; but there is a new form of it, with golden-yellow foliage, which will perhaps supersede it for edging. The best of the family, however, is, beyond a doubt, the elegantly variegated varieties of *S. Sieboldi*; but, unfortunately, the conspicuous stripes and markings are liable to be lost if the green shoots are once allowed to get the upper hand.

S. Orientale is a glorious species, but almost too large for our purpose. This genus,

like the preceding, is very large, and embraces quite a number of kinds suited for carpet-gardening.

Still another genus of succulents is the *Echeveria*, with fewer species than the foregoing, but all available. Prominently we may call attention to the *E. metallica*, a large, fleshy-leaved kind, that is covered with a pinkish bloom. *E. secunda*, and *E. secunda glauca*, are invaluable for this style of planting; and *E. sanguinea*, when young, is useful as well. There are a few rare species that will in time make capital bedders, but, probably, not superior to those already enumerated.

The *Lobelia* genus supplies us with several showy little species and varieties, which, unfortunately, do not succeed so well with us as they do in England. The blue, white, and pink flowers of the various sports, taken in connection with the dwarf, compact habit of the plants, render them invaluable for this "rule and line" system. We might say, in passing, that *L. pumila grandiflora* is about the only variety that seems to hold its original peculiarities when grown from seed. The others must, therefore, be increased by divisions of the plant. As summer draws towards a close, the Lobelia needs a close trimming, when it will throw out a young set of shoots, and again deck itself with a profusion of its delicate little flowers.

The *Cuphea platycentra* makes a valuable addition to our list of dwarf, free-flowering plants. From early summer to late autumn it is always decked with its wealth of scarlet, tubular bloom. It is readily propagated by cuttings, and, if set thickly in the row, will form a desirable contrast with the preceding.

Cerastium Bierbesteeni and *C. tomentosa* are each valuable, as they make a dense carpet of silvery-white foliage, exceedingly pleasing to the eye. A new and deservedly popular plant, sent out under the name of *Stellaria aurea*, or "Golden Chickweed," will in time prove one of our very choicest aids in working out complicated patterns. Another golden-leaved plant, and one that is unsurpassed where it succeeds properly, is the now well-known Golden-Feather; a *Pyrethrum*, with yellow leaves, which does not behave handsomely in all situations. We have seen it the past summer, both in Europe and in this country, where it was certainly a gem in the collections. It needs to be frequently and closely pinched-in, to make it a suitable plant for the work we are attempting to describe. Another set of prettily colored plants will be found in the genus *Alternanthera*. In rich soils, with us, these will grow too luxuriantly; but, by close planting and quite frequent clipping, similar to that recommended for the Golden Feather, they can be made very useful among our smallest plants. Two entirely new candidates for popular favor come under the heading of very low "trailers," and are equally effective for tracing intricate patterns. The first, *Othonna crassifolia* is a pale-green, succulent plant, laying close to the surface of the bed, and blooms regularly all summer long. The plant itself is quite handsome, however, even without bloom, and has withstood the hot, dry weather of the past season charmingly. We predict for it a "long run." A fit companion for this is found in our other novelty, the *Mesembryanthemum cordifolium variegatum*; a long name for an exquisite little creeping plant, which has fully justified the encomiums heaped upon it by its introducers. Its white and yellow markings glistening in the sunlight, with myriads of tiny, silver-like specks, at once places it in the front rank of miniature plants. These two are among the best basket-plants of which we have any knowledge; and for planting around the edges of vases, where the trailing stems may hang down, they are particularly effective and useful.

A second season's trial of the golden-leaved *Peristrophe* has proven that, in one locality at least, it makes a marked feature in "carpet-beds." In one of the hottest, dryest positions possible, it has grown finely, and has shown a much richer color than other plants of the same variety in the shade.

The variegated Sweet Alyssum forms a good contrast to the brilliant-leaved plants, as the foliage is prettily striped with white, and,

when grown thickly, becomes dense in habit without much attention on the part of the gardener.

The hardy, herbaceous plants furnish us with many useful species for carpet-gardening; for instance, some dwarf *Gnaphaliums*, *Achilleæ*, *Saxifragas*, etc. Then, again, we have several very pretty annuals of small size that will work up in this way very usefully, such as *Sweet Alyssum*, *Portulacca*, *Ageratums* (dwarf sorts), and others similar plants.

In preparing a bed for the purpose of forming handsome designs of the character treated of in this paper, we should bear in mind that a sloping bank will show the figures to much better advantage than a dead level; consequently, the bed should be raised high in the middle, and carefully rounded off to the edges. In England it is customary to have a perpendicular edge of, say, six or nine inches in height, which is plastered with clay. This we unhesitatingly condemn, as in poor taste. Others, again, set this edging with Sempervivums of sorts, and this is a decided improvement over the first; but we cannot help thinking that the most preferable plan of all, is to allow the slope of the bed to reach the level surface without a break, and then form an edging of about three species of Sempervivums.

The soil should at once be light, moderately rich, and sandy, as the majority of the plants enumerated prefer such to one that is heavy.

We should recommend a compost, prepared one year in advance, of old chopped sods, a little old manure, and some sand; this, if occasionally stirred through the season, will give perfect satisfaction when in use. If the season should prove dry, a frequent watering must be given, as an exposed bed of this character will need more attention than a flat surface. True, the succulents used in the planting thrive, as a rule, with very little moisture; but, after all, they are benefited by that little, judiciously applied.

Now is the season to prepare for the work next year, and the exact number of each species desired may readily be ascertained; and work should at once be commenced upon their propagation by all who have the proper appliances. Better have a few too many than not quite enough, as the plants must be *set thickly* to produce the finest effects.

Best Geraniums.—The following is a list named by the *American Farmer* as really choice: "Jean Sisley is the best and most distinct scarlet geranium in cultivation. Geraniums Gen. Grant and Lucius are good. Gen. Lee (Buist) is an excellent violet. Crimson variety Arthur Pearson is *just splendid.* Coleshill is excellent. Master Christine, Christine Nilsson, Christine, Heleod Lindsey and Maid of Kent are pink varieties unsurpassed. Mark Twain is distinct and good. So is Blue Bell. Rollerous Unique, London Blue and Macbeth are beautiful in flower and foliage."

Celosia Huttonii.—In answer to a question whether this plant has come up to expectation, Briggs Bros,, of Rochester, say that they consider it "the finest *dark-leaved* foliage plant that we possess that can be raised from seed; being nearly as dark, and of a much finer and more compact habit than the now well-known Iresine Lindenii, forming dense bushes about 15 inches high, and 20 inches in diameter, the same season from seed. It succeeds much better than the Iresine when planted out of doors, and is excellent for the ribbon border, vase or basket."

China Asters.—An English gardener, after trying the various kinds of Asters of recent introduction, recommends the following:

For large beds, the Hamburgh Prize, Pæony Perfection, the Victoria, the Cockado, and the Hedgehog, are the most desirable.

For medium sized beds, ribbons, etc., the Dwarf Chrysanthemum, the Dwarf Victoria, and the Schiller Dwarf Pyramidal are the finest; being compact, and of even growth, bearing their flowers conspicuously above the foliage.

To cut for bouquets, the Imbrique Pompon, and the Dwarf Bouquet elegantissima, are of the most exquisite colors, and perfect models in shape, varying from the most miniature to the size of a Pompon Chrysanthemum.

Gardening.

Curculio Catching.

DR. HULL, of Alton, Ills., is probably the most successful fruit grower of the West. From 1,930 trees this year, he captured not less than 153,000 curculios, and he tells the Alton Horticultural Society how he did it: "Early in the season I commenced a series of experiments to determine, if possible, at what particular period of the day curculios were at rest. On three different days I dropped a number of curculios in flour, and near sundown of each day put them in the forks of the trees and watched them until they crawled into some place of concealment which was usually in the crevices of the rough bark, and into depressed parts made by cutting off limbs of trees. Out of 30 insects thus watched to places of rest all concealed themselves as stated, except one, which went to the ground and crawled under a clod of earth. Out of 30 insects thus watched, all but one were found early the following mornings just where they went to rest at night.

Again, I made other tests with marked insects by placing them on the trees in the morning. This experiment was repeated on three successive days, employing 30 insects each day. Near sunset the trees were thoroughly jarred over a curculio catcher. This experiment resulted in the capture of 27 of the 90 insects on the trees on which they were put, and at different times since in other parts of the orchard 49 of these marked insects have been jarred down, leaving 16 yet at large.

From these tests I infer curculios, as a rule, rest at night and fly freely by day. They make clear what every practical man when jarring trees must have observed, viz., that these insects fall near the center of the catcher, because places of concealment are most numerous near the trunks of the trees, and for this reason, also, a small curculio catcher is nearly as good as a large one, provided the trees are jarred during the colder part of the day."

Water-melons.—Muscatine Island, Iowa, is the most famous place in all the Northwest for this delicious fruit. I asked a farmer upon that large island how many acres of water-melons were estimated to be there. His answer was *one thousand*, and his neighbor said that was probably an under-estimate. The island is a large, level plain of sandy land; hence its adaptation to melons and sweet potatoes. The melons grow large, and of the sweetest and best quality, mostly a variety called Black Spanish, large, round, dark green, red core. and very sweet. They are well known in Chicago, Omaha and St. Paul, and have been sent to Duluth, Denver, Buffalo, New York, etc. Their weight is 10 to 20 pounds—sometimes 40. They sell by the wagon load at $8 to $10 per 100, and market declining to $5. One hundred make a good two-horse wagon load, filling a wagon with side-boards, that will measure 50 bushels. They retail by our fruit men at 10 to 15 cents. The way to eat them is to cut them in two halves equatorially, then four persons to each half, with spoons in hand, making sugar water of all of it but the hard rinds. They are usually satisfied for hunger and thirst with one melon after dinner.—*Suel Foster, in Country Gentleman.*

Insects, Slugs, Etc.—The cultivation of fruits in this region is an almost incessant battle against insects. In addition to our old pests, we have now in Medford (five miles from Boston) and adjoining towns, a slimy slug voraciously devouring the pear leaves, and, for want of them, cherry leaves. I first noticed this insect in my garden, three years ago. It is about three-eighths of an inch long, and of a blackish green color—making up in number and greediness what it lacks in size. Some pear trees were denuded by these slugs in early summer, and afterwards put out new leaves. Some shed their badly eaten leaves the latter part of the summer and remained bare the rest of the season.

What is the best remedy against these pests? One of my neighbors used a solution of whale oil soap with perfect success. In the morning, when the leaves were wet, I threw

wood ashes over some of my trees and air-slaked lime over others. The slugs covered with lime were killed; but most, if not all, of those sprinkled with ashes survived. A new tribe of these insects appeared about the first of September. MYSTIC.

Medford, Mass.

Effects of Culture on Currants.—A correspondent of an exchange says: "About fifteen years ago I received as a present cuttings of the following varieties: White Grape, White Dutch, White Crystal, Cherry May, Victoria, Large Red Dutch and Black Naples. After planting in the usual manner, I took particular pains to cultivate them well. Every spring the ground has been top-dressed profusely with ashes, leached and unleached, well incorporated with the soil under and around the bushes, and has been kept from grass and weeds. Immediately after this application they are mulched with barnyard or chip manure. The result has been that I have never failed of a large crop of the finest and largest fruit, and entirely free from the worm. Near these bushes (perhaps sixteen rods away) I have some of the old common varieties, which have not been similarly treated, but left to take care of themselves, and, as a consequence, they are nearly destroyed by the worms; the leaves during the past two summers being entirely, and many of the smaller twigs totally destroyed. I have come to the conclusion, therefore, that larvæ of the currant worm lie dormant during winter in the ground near the bush they intend to attack the next season, and that mixing wood-ashes with the soil destroys them. I do not profess to be an entomologist, but I certainly arrive at no other conclusion. I am now growing quite a number of bushes in the tree form, *i. e.* one bush only in each place, six feet apart each way. The advantages consist of easier cultivation, easier gathering, and larger and finer fruit."

Melons.—The following is recommended by a gardener who has had remarkable success: "I dig holes twelve inches square, eight or ten inches deep; fill up with well-rotted horse manure to the surface. On this put two inches of soil. Then take a four-inch flower pot; set in the center; draw the remainder of the soil around the pot, until the soil is about four inches deep, then giving the pot a twist round, withdraw it. This leaves a hole four inches deep by four wide. In this drop five or six seeds, and cover to the depth of three-quarters of an inch. Over this place a pane of six by eight glass, pressing it lightly to fit close. I then give no more attention till the plants are touching the glass. Then go through, taking a small stone, raise up one end of the glass with it; this admits of a circulation of air over the plants and hardens them. In about three days more remove the glass entirely. By this time they will be in the rough leaf; thin out to three plants in a hill, draw a little fine soil around them, up as high as the seed leaf, and the work is done."

The Canker Worm.—After testing different prescriptions for twenty years, a writer in *The American Agriculturist* concludes that the simplest and best way to barricade the canker worm is to make bands of sheathing-paper six or eight inches wide, tack them around the trunks of the trees, and then cover them with refuse printer's ink. The ink costs 12½ cents per pound, requires from two to four applications each season, and the entire expense is about ten cents for each tree annually.

A New Winter Salad.—*The Garden* gives the following: "Ordinary buckwheat, grown in a moderately warm greenhouse, and cut like mustard when about two or three inches high, makes a delicious winter salad. It can be grown in pans all the year round without the least trouble, and even when lettuces are plentiful will be found a very desirable addition to the salad bowl."

A correspondent of the *Farmer's Home Journal*, who keeps one hundred fowls among his apple trees, says they destroy every insect that can injure the fruit, and he thinks they offer the best way of getting our orchards in good bearing condition.

Fruit Culture.

New Grapes as Proven in 1874

BY S. J. PARKER, M.D.

AS proven this year of 1874, the following grapes are worth attention:

Croton.—This grape in the Cayuga Lake Valley is healthy, hardy and prolific. Has a longish, loose bunch, with large berries, and also smaller ones. Bunch, six to seven inches long, and three to four broad. Golden yellow, with thin, white bloom. It ripens slowly, and hence those eating it early, and partially ripened, will be apt to condemn it as sweet but flavorless. Fully ripe when Concords are also fully mature; it is juicy like the foreign sweet water; sweet, and with a low grade of aroma, but what aroma it has is pleasant. It will not do to eat it with other and higher flavored grapes, as they make it seem insipid. But fully ripe, and eaten alone, it will, I think, be considered valuable, and be sought after. Like all white grapes, both European and native, it is apt to have a few berries rot and slink away in nearly all its bunches, but not to much extent.

Walter.—Grown on Concord and Isabella roots. This is a grape large in berry and bunch. I must class it with high flavored grapes—it having at this place a strong honey-sweet aroma, that lasts long on the taste nerves of the mouth. This flavor is so strong as to destroy the aroma of less decided flavors. Hence it can be eaten alone, by itself, or with others. The grape on its own roots is less vigorous, and with less aroma. It is healthy and hardy here.

The Ithaca.—This is my own seedling, This grape ripens before Delaware and Concord, still proves hardy, healthy and vigorous. It is in bunch and berry larger than Walter; a pure greenish yellow, with a rose-like smell, and a high Chasselas Masque-like flavor, similar to, but not as high as its partial parent, it being a cross of Chasselas on Delaware. A few berries rotted this year; not many. The fruit by the quantity looks well, both in baskets and when it is packed in boxes. Sold for thirty cents a pound against Delaware and other grapes at ten cents. A cold August was against it this year, yet it was the second in earliness and the best in quality of all grapes here.

Wyoming Red.—This grape which I have so long entreated the public to enquire for and plant, has at last become one sought after, and it is being rapidly diffused, so much so, that the few thousands propagated here, yearly, cannot supply the demand. Its great value is, that it is hardy, prolific, and ripens in advance of all other grapes, and hence sells well. The whole crop here, sold at twenty cents or more, and did not supply the local demand for it. It is not the best in quality, as it is a Fox grape, but is a good grape; red, about the size and appearance of Walter; not as choice in flavor, but sweet and agreeable.

Nathan C. Ely.—This is a seedling of David Thompson, of Green Island, near Troy, N. Y. Unexpectedly to me its bunch proved remarkably large, so much so, as to take us all by surprise. Bunches, nine inches long by five wide, were very common. Several were a foot long and eight inches through the shoulder. The berry is medium-large in size, yellowish-green, very closely set in its crowded bunch. It appears in shape and form like an European grape, just as if it had been grown under glass. It is probably three-fourths foreign pollen. It resembles no foreign grape I have any knowledge of, though I am familiar with most of the usual and some rare kinds as grown under glass. At Ithaca we have in this vine, that on a common vineyard trellis, totally unprotected in the open out-door air, ripens its fruit, a magnificent bunch and a fine appearing berry, with perfectly healthy foliage and ripened wood. Yet it is a matter of regret that it is late, coming to maturity after Concord, ripening just before Isabella. Vines load themselves with these splendid clusters. I also regret that it is less sweet and less in aroma than Croton. Indeed it is deficient in sugar and flavor.

Farmers' Club.— This is another of David Thompson's grapes, less in size of bunch than the N. C. Ely. The vines on the grounds of Mr. Tucker of this place, are not yet old enough to say exactly what this will prove to be, yet its flavor is better than the N. C. Ely, berry is greener and more even in their size.

Most of David Thompson's black seedlings are late, and appear like enlarged Isabellas, as far as I have proven or seen them here; thus the Ketchum, S. J. Parker and others are but feebly to be commended, so far as proven. The Carpenter is a large, red grape, cannot be grown here unless the vine is taken down off the trellis and covered with earth each winter, a thing we do not do in proving new seedlings—it being my rule to let all vines sent me for proving die, unless they can endure the Ithaca climate, tied on the open air trellis in exposed situations. The Carpenter dies to the surface of the ground every year.

A gentleman whose name I have forgotten, about forty miles north of Pascagola, Miss., several years ago, sent me by mail a vine, saying it is an early white grape, very sweet, and I wish you to try it. Having no confidence in it, I paid but little attention to it. This year it was loaded with not a white, but a red grape, which in flavor and appearance is very similar to, but far better than the Sugar grape of the Shakers, of New Lebanon, near Albany, N. Y., on the stage road to Pittsfield, Mass. The Shaker grape I condemn. This I can commend as a "Sugar grape," very sweet, singular in the "Shaker" flavor, prolific in bearing, with a cleft leaf also similar to the Shaker. Its larger bunch and berry, its sweetness and hardiness at the north are its principal features after its very peculiar flavor. It falls like Hartford from the stem. It is also a Fox grape.

Such are a few grapes out of the many proven, and which may interest the readers of THE HORTICULTURIST. I have tried to speak impartially and truly of them as they appear to me, this season, until the October rains gave us very fine grapes.

Experience with Pears.

By D. B. Wier. From paper read before Madison Horticultural Society, Wisconsin.

Clapp's Favorite.—I have fruited this two years, and consider it a valuable addition to our first-class pears, both for family use and market. It is claimed to be a cross between the Flemish Beauty and Bartlett. It resembles the former very closely in tree and leaf, and appears to be equally hardy with that famed "iron clad" variety. In fruit it resembles the Bartlett somewhat in size and color and here it ripens about ten days earlier. It is a sturdy grower, and exceedingly productive. Its fruit though not very rich is very fine grained and juicy—in quality best; comes into fruit young, and is so far healthy in foliage and tree. The fruit must be gathered as soon as mature and ripened in the house, like nearly all summer pears.

Doyenne Boussock.—This, though not a new pear, is not as well known as it should be. It is so far the handsomest and healthiest both in wood and foliage of any variety in my collection. It is of sturdy, though not very rapid growth; gives an abundance of fruit in from eight to ten years as a standard. The fruit is very large and handsome, and of uniform size and quality. Downing says: "Flesh buttery, juicy, melting, sweet, aromatic and excellent; very good. I would amend by saying *vinous* in the place of "sweet" and *best* in the place of "very good." Tree appears to be perfectly hardy; a splendid fruit either for family or market. Like the Clapp, Flemish Beauty, Bartlett and some others, it will ripen up in perfection if taken from the tree when the fruit is two-thirds grown.

Goodale.— A native of Saco, Maine, appears as hardy as a Norway Pine and appears to be in every way desirable. Fruit large, handsome, and of very good quality; tree a strong, sturdy, leafy-twigged grower. Good ale is good, but Goodale is better for the people of the Northwest.

Mt. Vernon.—I have only had this one season. It resembles the Flemish Beauty

very much in wood and leaf. It has all the signs of hardiness. Originated near Roxbury, Mass. In it I hope to find our best early winter pear.

Ott.—Though this is not a new pear, it endures extreme cold so well here, it is well worthy of trial further North, as an early pear of most excellent quality. It is a seedling of the Seckel, which it very closely resembles in tree and foliage.

Each year in this part of the world, there is more inquiry for pear trees, and each year as more of the wildness (humus) gets out of the soil, they appear to do better.

The one great fault is the style of trees that are planted. Last fall I asked the most successful pear grower in Pennsylvania, what he considered the best form for a pear tree, how long a trunk he wanted? He spoke up quick and sharp, "I do not want a pear tree with any trunk; I want them to branch from the ground up like a Norway Spruce." That is it exactly, dear reader. Nine-tenths of the pear trees planted in the West were utterly spoiled by being pruned up before they were planted. If pear trees should have no bare trunk in woody and hilly Pennsylvania, how is it in the treeless, level, windy West? Think of it, a young pear tree with from three to five feet of naked trunk on our prairies! Why it is as bad as a man with only shirt and bear skin drawers on, crossing the prairie on a cold, January day. Why, if I were to plant another pear orchard I would not take what are called first class two and three year old pear trees, as a gift, and plant them as they come from the nursery with three to five feet of naked trunk.

We nurserymen are *not* to blame! We cannot sell trees of the right kind; if we grow them people won't have them. Now if you want a good tree or a good orchard, the only way to do is to buy good trees one year from bud, or two years from root graft (I greatly prefer the last); plant them out on dry and rather poor soil, cut them back to a foot or eighteen inches; cultivate them thoroughly four to five years, and never touch them with a knife after the first cutting back, except, if the twigs make a growth of over twenty inches, cut them back to that point.

Grafting Nursery Stock.

THERE seems to be an erroneous impression among farmers and others about to plant out an orchard, that the young trees that are offered by nurserymen are from suckers, and therefore will not come into bearing in a great while. A man said to me, a few days ago, that he was going to graft a Spy apple, but he would not take his scions from a young tree in the nursery, "for it would be so long coming into bearing." He was under wrong impressions, for I am sure that a scion put into a large tree will bring fruit in a very few years, while a young Spy tree is one of the longest coming into bearing of any of the varieties we cultivate. This leads me to what I wish to say:

The process of budding (and that of grafting, too,) is one of the finest ways of producing thrifty, straight and hardy trees. Nurserymen do not allow the suckers to grow on their stock. The scions used for budding are taken out of the tops of the trees in the nursery, and the buds are put into healthy trees of thrifty growth. In this way we produce trees from five to seven feet high at two or three years of age. A great many of the trees bear fruit in the nursery rows. I have picked this week from three year old trees perfectly formed fruit of five varieties of pears, one of cherry, and five of apples, showing that our way of making trees is not inclined to put the bearing off as many years as is supposed by some. —*Cor. Country Gentleman.*

Col. Hollister, late of Ohio, who emigrated to California several years ago, has now 700 acres of almond grove, and 60,000 trees in bearing, 100,000 orange, lemon, and olive trees. He owns 100,000 acres of land and has 150,000 cattle and sheep. He has bought twenty-six bushels of tea seed in Japan this year, and is going to grow the tea plants extensively.

Window Gardening.

An Air-tight Fern Case.

OUR village parson is fond of gardening, and especially of Ferns, of which he has a vaseful worth a moment's attention. This vase or pan is made of thin glass, somewhat over a foot in diameter. It was filled with common sandy loam and moss from one of the surrounding hillsides several years ago. The Ferns were then planted in it, and a glass globe placed over them. This globe has never been removed since that time, and no water or any artificial nourishment of any description has been given them during all those years. The whole is nearly if not quite air tight, so that the dry air of the room has no opportunity of absorbing the moisture which was supplied to them when watered seven years ago. If the pan had been earthenware, moisture would, doubtless, have found its way through it; but, being glass, it is entirely air tight. The soil has subsided about an inch; but, as seen through the glass, it has still a fresh, nourishing look about it. According to the temperature of the room, moisture rises and condenses on the glass, and falls again, revealing the beautiful fronds of *Pteris serrulata*, *Aspleniums*, *Scolopendriums*, and similar Ferns. All these seem in excellent health, notwithstanding their imprisonment, during which old fronds have died and crumbled into dust, new ones have taken their place; and now they are in as fine condition as any Ferns possibly could be under the most skillful attention.—*J. Mein, in The Garden*

Campanula as a Window Plant.

Barrelier's Bell Flower (*Campanula Barrelieri*) is considered by a correspondent of the *Garden* one of the finest of all dwarf-growing Bell flowers for window culture; and, after trying many others, including *C. pulla*, *C. turbinata*, *C. fragilis*, and others, I have given this the preference. Grown in a pot of rich, sandy earth, it forms a bushy little plant in the spring, while a month or two later its branches elongate, until they hang gracefully over the pot sides, covered with pale, purplish-blue salver-shaped flowers. One of my plants looks splendidly just now, being a perfect mass of flowers. A good potful of this plant makes a capital substitute for a hanging basket; and the flowers show to better advantage when the plant is suspended in the window or on the balcony outside. It is also a capital bracket plant; or it looks well on the window sill, where the shoots can hang down freely. The two best campanulas for the window gardener are, undoubtedly, this and *C. pyramidalis*, which are very distinct from each other in habit of growth, and both perfect in their way.

Culture of Carnations.

SELECT the cuttings you desire to propagate from the parent plant, and cut it through with a sharp knife just below the third pair of leaves from the top of the cutting; this done, cut off half the length of every leaf on the cutting except the two lower ones, which are to be removed altogether. Now you will fill quite a small pot with one-half soil and one-half sand; make it smooth, and insert your cutting in the center from one to one-and-a-half inches in depth. Water well, place a hard glass or tumbler over it, and set it aside. This glass will gather moisture, and should be removed every day and wiped dry, and again replaced. You can, by this means, stake your cuttings in a room of your house with as much ease, and with as much certainty of their living, as within a greenhouse. Cuttings thus prepared may be readily rooted in a window or in a room, from May to October, without failure. I find a very good way to start cuttings to be in a raisin box of sand, filling the same with the cuttings half an inch apart, and keeping them well watered.

Layering is not so certain, and requires more care than the above method, neverthe-

less it is well to know how you are to do it. With a sharp knife you will remove the leaves from the second or third joint of the plant, without separating the same from the parent stock; having done this, carefully cut a slit close under and half through the joint, being very careful not to separate the shoot from the main stem. Have ready your small pot sunk in the ground, in the soil which you cover your layer with. You will now peg the layer down with a small twig hook, and your work is done. Shade these from the sun while rooting; and when rooted sever from the parent plant, and you have an independent plant, thrifty and reliable.—*Ollipod Quill, in Forest and Stream.*

Clematis in Conservatories.—The *London Journal of Horticulture* calls attention to the exquisitely beautiful appearance of Clematis present when grown together on pillars in conservatories and similar positions. As a rule, it is not best to grow more than one plant to a pillar, as both are usually spoiled; but in this case there is positive advantage to have both, each lending a charm to the other, and combining to produce a more effective picture than either separately. After growing a year or two the stem becomes naked at the bottom; just then put a fine, strong-growing mass of geranium, and the furnishing is complete. "What can be more pleasing than a scarlet geranium, with a few carelessly hanging branches of a white clematis intermingled, or a white geranium with a lavender or blue-shaded clematis?"

"Nothing can have a finer effect in the conservatory than masses of clematis; the flowers are soft, but brilliant, of the largest size, and, consequently, conspicuous at a distance. I have had from 100 to 200 expanded blossoms on a plant at once. I have them trained to the rafters, with that best of all climbers for large buildings (*Tacsonia* var. *Volzemi*) rambling from rafter to rafter amongst them; the brilliant crimson flowers of the latter being very effective."

"Although the flowers like plenty of light, they should be shaded from a strong sun."

Names of Plants—English vs. Latin.—My friend asks "What is this pretty flower?" "*Galasine azurea.*" "What a long name!" "I cannot shorten it." "But why have a Latin name? Better call it Blue Smiler in plain English." "Then you like such names as Shamrock, Blue-bells, Eglantine and Culowkeys?" Certainly, every one can understand them." "You can recognize the plants?" "Easily." "Well, I can show you in point of endless discussions as to what they are. On the other hand, I defy you to produce two persons who disagree as to what is meant by *Eucharis Amazonica.* Paradoxical as it may seem, Latin is, in such matters, more intelligible even to an Englishman than English."—*Cor. Journal of Horticulture*

Table Decorations.—Table decorations are receiving more and more attention in London society. Lord Porterhouse, in an article to one of the papers, speaks of a novelty worthy of notice by our lady readers.

He says he dined one evening at the house of a distinguished gentleman who had recently married a Russian lady. The table was entirely covered with moss—the fern-like moss which is plentiful in Covent Garden. There was the usual white cloth, but the only evidence of it was seen in that portion which hangs at the sides of the table. Flowers were profusely introduced, and the effect was altogether unique. He stated that this was one of the most ordinary kinds of table decoration in the aristocratic house of Russia.

Composition of a Royal Bouquet.—During the recent visit of the king of Denmark and his daughter, the Princess of Wales, to Edinburgh, Messrs. Drummond, florists, presented a splendid bouquet to the Princess, who expressed great admiration at its singular beauty. A fine bloom of *Eucharis Amazonica* forms the center of the bouquet, and, among other rich flowers which composed it, were the rare and beautiful *Lapageria rosea*, Stephanotis and the sweet-sented Italian tuberose. The bouquet was encased in a rich satin holder trimmed with Honiton lace.

New and Rare Plants.

Maranta Makoyana.—A lovely, dwarf-growing stove perennial, belonging to the front rank of plants, with ornamental foliage. The leaf stalks are slender, erect, of a dull, reddish purple, and support an ovate blade, somewhat unequal sided, about 6 inches long, and 4½ inches broad, most charmingly colored. The margin and the oblong marking are of a very dark, bottle-green color, while the whole intervening space is semi-transparent, cream-colored, or of a greenish, straw color, and traversed by the veins, which form narrow, divergent, dark-green lines, between which the pallid surface appears as if minutely striate; when closely examined, however, it is found to be barred transversely with minute, green lines, producing, under a magnifying glass, the appearance of being cancellate, like the *Ouviranda*. This pale center of the leaf, on each side the midrib, is ornamented by oblong, often stipilate blotches, of a deep, full green, and from one to two inches long; the larger and smaller marking frequently alternating. The under surface is a wine red, deeper opposite the darker marking of the upper surface, It may be generally described as a miniature of such plants as *M. Veitchii* and *M. Lindenii*, but is even more beautiful than those fine kinds.—*William Bull.*

Hibiscus* (*Rosa Sinensis*) *Punicena.—A very attractive stove plant, of a remarkably dense and close-growing habit, as compared with others of this well-known, showy species. The leaves are shortly and broadly ovate, of a deep green color, with an irregular toothed margin. The flowers are double, remarkably red and compact; they measure about three inches across, and the wavy, petaline bodies which form the close center are about two inches in depth, and have a very elegantly crisped appearance. The color is a bright, dense crimson, so that the blossoms are very attractive. It is one of the many importations from the South Sea Islands.—*William Bull.*

Lilium Washingtonianum purpureum.—A new lily, a native of Humboldt county, California, and a variety of the Washingtonianum, although there is some discrepancy still unsettled. In the "*Journal of the Linnean Society*" it is described by Mr. Baker as smaller and more slender than the type, with a stem from 1–1½ foot high, and the whorled leaves from 1–1½ inch long, as having from 4 to 8 flowers on an umbel; the perianth being of a wine purple, and covered with minute dots. It has a peculiar pyramidal habit of growth, the flower stem pointing from one common center upward at an angle of 45°; the color, on first opening, was nearly white with purple spots, becoming, in age, suffused with a purplish tint, not deep enough to obliterate the spotting.

New Weeping False Acacia (*Robinia pseudo Acacia pendula*).—The *Revue Horticole* considers this an acquisition. It is of a distinctly weeping character. The vigorous branches, which are often of great length, weep down towards the main trunk after the manner of the Slyphnolobium pendulum. The foliage presents no special peculiarity, and resembles that of the typical species or common Robinia.

Aralia Granadensis.—This free-growing stove shrub was sent from New Grenada as an Aralia, from which genus, however, it appears widely to differ. It is a soft-wooded plant with alternate leaves, which, in young plants of 1½ foot high, are about a foot long, and nearly as much in breadth, of a soft herbaceous texture, peltately attached, and of a pale green color, the under surface being clothed with cobwebby hairs. These leaves are ovate in outline, three-lobed, with ovate-acuminate lobes, and there is a peculiar white patch at the lower side of the base of the terete petioles. The stems are marked by a ring at each node, showing the presence at an earlier stage of a convolute stipule, as seen in Artocarpads.—*William Bull, London.*

A good edging plant for a sandy soil in a garden is the *Lithospermum, Prostratum*, Grownwell or Stone weed.

Maranta Makoyana.

Hibiscus* (*Rosa Sinensis*) *Punicena.

Editor's Portfolio.

Curiosities of Rural Journalism.

Almost every new comer in the field of rural literature echoes the stereotyped expression of one idea,—that their mission is "to give *sound and practical instruction*—to *avoid sharp personalities*—to correct the articles of *empirics*, whose suggestions would surely lead to *grievous disappointment*—and to make the history, theory and practice of rural pursuits more *scientifically correct*."

One other expression, we notice, is quite frequent, somewhat like this: "The *articles of a majority of our writers are, generally, the work of persons whose reading and practice have been too limited to afford the qualifications needful for giving instruction.*"

And straightway some first-class, well-established journal is selected for a first-class criticism. The editor finds, much to his regret, after a free tilt, that the selection of such for unnecessary criticism is bad policy, and brings down the enmity of others from general sympathy with the attacked party. We have a good laugh, occasionally, when these new fledglings get caught themselves. So the following instance is worth relating. A new Brooklyn journal, in its first number, criticises *The Country Gentleman* for publishing a pretty story, which it says, unfortunately, is not true. In the same number it publishes a nice disquisition on the Jerusalem Artichoke, saying that it came originally from Canada. Whereupon, the *New York Nation* retorts, that the *Jerusalem Artichoke* did not come from Canada, but *Louisiana;* and the Brooklyn editor, upon investigation, really cannot tell, to a certainty, where it did come from. Now we do not speak of this, except to mention it as a curiosity of "*sharp eyes watching to trip new critics.*"

After a year or two spent in time, talent and money, to get a new journal well started, the editor gets lonesome, and finds, after all, it is not best to pitch into the older journals, and it is decidedly more advantageous to be on good terms with them. Tilton's *Journal of Horticulture* was doomed from the first to unpopularity and failure, because of its ungallant attack upon others of same profession.

With regard to writers of *experience*, we think it worth mention that the most successful agricultural editor of the present day, one highly esteemed by men thrice his age, is a young man, never brought up on a farm, did not live in the country for but few years, resided entirely in the city while engaged in literary work, and never made a speech in his life. It is a complete disproof of the old idea, that "*it takes a successful farmer to make a successful agricultural editor.*" He had great power of observation, easily learned what farmers liked, sought for information which would suit them; got ideas from every source, correspondence and selections, condensed them, and made a model paper; and yet not once living or visiting a farm. He is still agricultural editor of one of the "*leading journals of the United States.*"

We maintain that a *successful farmer* never can be a *successful editor.* He *knows too much*, and is not ready to believe or credit what others know; hence, he never will make a good news distributor; he judges everything by his own opinions, and usually wants to tell only what he knows himself. Almost all successful farmers have hobbies and prejudices, and these are gratified; hence, he looks upon experiments of other people as not likely to bring out any more good than his own. A successful editor's idea of a model journal is to *tell what others know.* A successful farmer's idea of a model journal is to *tell what he knows.* And yet, the editor, *bred to his position*, and the farmer who has gained his knowledge by years of hard work, experiment and application, cannot change places with each other and do as well. Each has his place. Therefore it is unwise, we say, for any one to keep ringing a tone of scorn, prejudice or criticism about editors of inexperience. Each has his peculiar ability, and the world has its proper room for him. The measure of a man is not so much *what he knows* (but keeps to himself), *as what he does, and how well he benefits others.*

The main questions considered in taking a journal are, 1. Does the subscriber get his *money's worth*? 2. Does it give good information? Beyond these points the public have no business to demand inquiry. Yet almost every one seems to make it his duty to search till he can find a fault. In judging of editors of rural journals, the mass of subscribers will always go for the side of the one who interests them most; and the most interesting editors are those who study the people closest; not those who *know the most*, and then tell it only in a doleful, dreary way. A youthful editor can often polish to brightness the obscurely expressed facts and ideas of the more erudite scholar.

It is not wise for any one to brag of great knowledge, especially new comers; nor "established authorities" frown down others of less knowledge, who are doing good work according to their means.

But we have made a sermon of what was intended only as a hint at the ways of rural editors, *who seem to be especially fond of criticism.*

Copy-right and Copy-wrong.

The *Villa Gardener*, of London, England, and *The Gardener's Magazine* have both made response to our criticism in June HORTICULTURIST. The burden of their reply is *tu quo-que* (you also). To which we respond, that we never quoted direct from *Villa Gardener*, because we never discovered anything *original* to quote. Nor from *The Gardener's Magazine*, because we never see it nor exchange with it. Its editor once exchanged, but never gave reason for discontinuing, while our journal has been continued regularly.

The true meaning of their reply is directed toward our book, "*Window Gardening*," in which five pages, written by Shirley Hibberd, are quoted, and special credit given *three times*. The illustrations referred to were purchased of Shirley Hibberd, publisher, and duly paid for, for use in this country. After paying a man for use of his material, and then extra credit besides, is it not time for him to shut up? Criticism from such an one comes with very ill grace. *The Gardener's Magazine* welcomes "*Burbridge's Domestic Floriculture*" warmly; yet it overlooks the fact, that this book is nearly half made up of selections from *The Garden*.

We mention this not to criticise the book, for it is a good one; but to show that the opinions of critics are not always to be trusted, especially when they have prejudices.

Fuchsias in Ireland.

An English paper speaks of the astounding luxuriance of the old red fuchsia in Ireland, near Carlingford Bay.

It assumes the proportions of trees, mounts above the eaves and chimneys, and shades the windows with big clustering sprays of tiny, dark-green leaves, and deep scarlet, waxen bells. Many of these shrubs must be of patriarchal age, for their trunks are gnarled, and tough as oak; but the older they are, the more determined is their perseverance in showering around an exhaustless wealth of hardy grace and color. In one or two instances the dwellings were completely hidden, and turned into bowers, by this quaintly beautiful plant or tree.

A New Editorial Associate.

We have the pleasure of announcing that Mr. Andrew S. Fuller, the well-known author and horticulturist, will hereafter be identified with THE HORTICULTURIST as one of its regular associate editors and contributors. The December No. will contain his first article, and thereafter he will write regularly for one or more of its departments. The editor-in-chief believes that with its present force of able associate editors, names of the highest rank and ability, representative men in the field of *American gardening*, THE HORTICULTURIST is fully entitled to a better claim upon the American public than ever before. We shall continue to add other practical talent to assist us in its management, until no one can claim to be its superior in merit. Mr. Hoopes and Mr. Taplin will still continue their articles and editorials, and the addition of spicy gossip from Mr. Fuller's pen, will make THE HORTICULTURIST a splendid feast for our readers the coming year.

The display of apples was very large; the best collection being that of A. Bridgeman—167 varieties (original collection of Charles Downing). The following awards were made:

1st premium for fruit—Henry Cornell.
" " " pears—J. H. Ricketts.
" " " grapes—J. H. Ricketts.
" " " apples—A. Bridgeman.

The tables were graced with an excellent display of Dahlias, Asters, Gladiolus, by James Vick. Floral designs from Burrows & Wood, W. D. Humphries; and 12 Palms from Henry W. Sargent. Among the novelties specially noticeable was a new grape seedling, from the Delaware, by Dr. A. M. Culbert; fruit was twice the size of usual bunches of the Delaware, very compact; fruit firm, and flavor not quite as sweet; a fine sort. Mr. T. S. Force was active in several good displays of apples, and specimen plants of Palms, Dracænas, and Latania. He is quite a successful amateur. Mr. David Smith, the treasurer of the society, does more than all others to quicken life, and keep the horticultural spirit alive and strong. The largest collections of fruit were those of J. H. Ricketts, who brought 69 varieties of grapes, and 115 of pears. Alfred Bridgeman, 100 varieties of pears, 172 of apples, and 21 of grapes.

Shakespeare's Knowledge of Horticulture.

A recent writer has asked the question: *What did Shakespeare know of gardening?* and thereupon sat down to examine his works for the evidences, which he found to be as follows: Of English wild flowers, he mentions about fifteen, alluding to some only once or twice, to others a dozen times. Of exotic flowers, or such as were cultivated in the scanty gardens of his period, more than 300 years ago, he mentions nine or ten; of trees and shrubs, exotics included, there are notices of about twenty-five. Of fruits, about thirty. Vegetables, about equal proportion. Products of the nature of spices and medicines are mentioned to the extent of about a score. The total is thus about 150, or more—considerably more than double that of the total to be found in Milton. Not even Virgil in his Georgics or Æneid has made mention of as many. It must be remembered that in the days of Shakespeare, there were no "floras" to consult; botany had not yet become a study, and wild flowers few, or no discriminating observers—and all his observations were from nature, and expressed in the popular language.

Complimentary. American Pomological Society.

The *London Gardener* acknowledges the receipt of last volume of the proceedings of the American Pomological Society, with this high compliment: "It is by far the most useful and well-stored thing of the kind we have ever seen. It is in every way worthy of the country which is destined to become the greatest fruit growing region of the earth, and contains a mass of matter of great practical value to American fruit growers, and in a lesser degree to ourselves. The paper and printing are of a character superior to what we usually meet with in the best works published in this country."

A Horticultural Pun.

Sir George Rose being introduced one day to two charming young ladies, whose names were *Mary* and *Louise*, he instantly added, with a bow, "Ah, yes! *Marie Louise*, the sweetest pear I know;" a compliment almost worthy of being coupled with that most beautiful one of Sydney Smith, suggested by the Sweet Pea. A young lady walking with him in the garden, paused to examine a favorite flower, on which she had taken great pains. "I am afraid, Mr. Smith," she said, "that this pea will never come to perfection." "Then allow me," taking her politely by the hand, "to lead perfection to the pea."

Floral Prizes.

Amid the great interest in preparing floral decorations with cultivated flowers, it is certainly an item of curiosity to learn that the first prize at the annual exhibition of the Tunbridge Wells Horticultural Society, was awarded to a lady, for her skillful decoration of *wild flowers*. The variety was a large one, and each tazza and trumpet were filled with Dog Roses, blue Forget-me-Nots, brown tinted sprays of Oak leaves and British Ferns, in each tier the flowers and foliage were most charmingly intermixed.

The first prize among gardeners was given to Mr. R. Downing, for the following pretty arrangement: Out of a tazza rose a glass stem, supporting on the top of the trumpet. Half way up this stem projected three tiny curved branches. In the tazza were blooms of deep crimson Roses, Stephanotis, blue shaded Statice, &c., set off by Ferns and other foliage. The small curved branches contained blossoms of Stephanoti and Statice, intermixed with fronds of *Adiantum cuneatum*. In the trumpet was an elegant plume of Ferns, Grasses, and flowers, similar to those employed in other portions of the stand; while drooping down from the mouth of the trumpet were long sprays of *Selaginella*, which gave a certain amount of grace to the whole arrangement.

Button Hole Bouquets.

These, which are exceedingly fashionable in London, are sold freely in shop windows, and also in Covent Garden market. One of the most popular designs is made of white Hyacinth flowers, and a blossom or two of *Scilla Sibirica*, a white Hyacinth, and a pip or two of Euphorbia Jacquiniæflora, backed in both cases either by a fresh Rose leaf, or Maiden Hair Fern. Rose buds, with their own foliage, are always elegant, and can hardly be excelled.

Curious Habits of Plants.

Some Orchids, whether wild ones, such as Ladies' Tresses, or those various and more gorgeous ones, mostly air plants of tropical regions, which adorn rich conservatories, curiously resemble butterflies, either a swarm of them, as some of the smaller ones in a cluster on a long, light stalk, fluttering with every breath of air; some are like a large, single, gorgeous, orange and spotted butterfly; another takes its name from the resemblance of its flowers to a moth. Can the likeness be a sort of decoy to allure the very kinds of insects that are wanted for fertilizing these flowers? * * When a fresh and active tendril in climbing comes in contact with a neighboring stalk, or any similar support, it hooks or coils its end round it, then having secured a hold, it shortens by coiling up its whole length, or a good part of it. This commonly draws up the climbing stem, nearer to its support, and makes it easier for the younger tendrils above to gain their hold. A tendril which has taken hold and coiled up, usually becomes stouter, rigid, and much stronger than it was before. One which would break with an ounce weight, becomes capable of supporting two or three pounds.—*Prof. Gray.*

Novelties in Flowers.

Two novelties among flowers have been discovered, so rare and wonderful that we are almost tempted to treat them as of fables until their verity is established by our own vision. One is a *black* lily in Santa Clara, California, with three large blossoms, each nine inches long, and perfectly black outside of the green petals. The other is to be seen at Constantinople, and described by an eye-witness as bolonging to the narcissus genus of bulbs. The flower represents a perfect humming-bird. The breast, of bright emerald green, is a complete copy of this bird, and the throat, head, beak and eyes are a perfect imitation. The hinder part of the body, and the two outstretched wings, are of a bright rose color, one might almost say flesh colored. These wondrous bulbs should have been sent to the Vienna exhibition. They will be in abundance by the time of our Centennial Celebration in 1876. And yet they can hardly be greater curiosities than the strange and mysterious "*Sancta Spiritu*" flower from South America, with its life-like representation of doves.

The New Conservatory,

In Central Park, New York, is to be 230 feet long and 50 feet wide; a grand Fifth Avenue entrance on Seventy-fourth street. The upper story is to be devoted to botanical plants and flowers, and the domes surmounting each end, one to ferns and the other to camellias.

Pears in the Garden of Plants.

The collection of pears in the Jardin des Plantes, at Paris, was begun 1792. In 1793 there were 186 varieties of all kinds of fruits. In 1824, when Thouin died, there were 265 varieties of pears alone; now there are more than 1,400 varieties.

Popular Science.

Darwin vs. Darwin.—A Darwin philosopher was brought before a justice on a charge of drunkenness. In defence, he said, "Your worship, I am a Darwinian, and I have, I think, discovered the origin of my unfortunate tendency. One of my remotest grandfathers was an anthropoid of a curious turn of mind. One morning, about 4,391,633 B.C., he was looking over his store of cocoanuts, when he picked up one for his breakfast, in which the milk had fermented. He drank the liquor and got gloriously drunk, and ever after he always kept his cocoanuts until fermentation took place. Judge, then, whether a tendency handed down through innumerable ancestors should not be taken in my defence." Casting a sarcastic look at the prisoner, the justice said, "I am sorry that the peculiar arrangement of the atoms of star-dust resulted in giving me a disposition to sentence you to pay a fine of five shillings and costs."

Gas Pipes Fatal to Trees.—Cuttings of Willow, the lower ends of which were placed in flasks containing a little water and filled with coal gas, developed only short roots, and the buds on the upper parts died shortly after unfolding in the air. Of ten plants in pots (varieties of Fuchsia and Salvia), among the roots of which coal gas was conducted through openings in the bottom of the pots, seven died in four months. To show that the plants were killed, not by the direct action of the gas, but in consequence of the poisoning of the soil, several experiments were made with earth, through which coal gas had passed for two or three hours daily for two-and-a-half years. The rootlets of seed sown in this soil remained very short and soon rotted. A plant of Dracæna was repotted in the soil; in ten days the leaves dried up and the roots died. These results sufficiently account for the fact, that the trees planted near gas pipes in streets so often die; the closing of gas pipes in wider tubes, having openings to the air, and through which currents could be maintained by artificial means, has therefore been recommended as a remedy. Such a plan is still to be more recommended on hygienic grounds, since it has been shown than infiltration of coal gas through the soil, takes place even into houses not supplied with gas.—*Scientific American.*

Guarana, a special vegetable remedy.—The value of *Guarana*, as a vegetable remedy for nervous headache, is thus vouched for by a correspondent of *The Cultivator*. "Guarana, made from the bruised and roasted seed of the *Paullinia sorbilis*, growing in Brazil, contains an alkaloid allied in character to that found in tea and coffee, and which comes nearer to a specific for sick headache and any other ill effect from our exertions, than any remedy I have ever found for any disease, in a practice of over forty years. Taken at the first warning of an attack, it will ward it off in nine cases out of ten, and do more than any medicine I have ever known to prevent its return."

Coal Loss by Exposure.—That coal loses considerably in value by exposure to the weather has long been known by practical men, but few probably would suppose that the heating power of bituminous coal is sometimes diminished forty-seven per cent. from that cause, ten per cent. being the loss in the same coal under cover; anthracite suffers less from the exposure, but enough to render it economical under most circumstances to keep it sheltered.

Health from Flowers.—It is reported that an Italian professor has discovered that perfumes from flowers have a chemical effect on the atmosphere, converting its oxygen into ozone, and thus increasing its health-imparting power. As the result of his researches he states that essences of cherry, laurel, lavender, mint, juniper, melons, fennel, and bergamot are among those which develop the largest quantities of ozone, while anise and thyme develop it in a less degree. Flowers destitute of perfume have no such effect. He recommends that dwellers in marshy localities and near places infected with animal emana-

tions should surround their homes with a profusion of the most odoriferous flowers.

A Carniverous Plant.—A remarkable plant was exhibited to the British Association for the Advancement of Science, by Dr. Hooker, who gave the inaugural address as president of the biology section. The address was upon the subject of carniverous plants, and Dr. Hooker explained and demonstrated by experiment some extraordinary discoveries of Mr. Darwin's. Among other things, says a Liverpool paper, he showed a plant called "Dionial," the leaves of which were open. A fly was captured and put upon a leaf, which instantly closed, and on reopening it was found that the fly was completely dissolved. A bit of beef was afterward consumed in the same way. The leaf was then fed with cheese, which disagreed with it horribly, and eventually killed it. Dr. Hooker explained that the plant's action was precisely similar to that of the human stomach. The leaf rejected a piece of wet chalk. Professor Huxley, in moving a vote of thanks, said these phenomena formed a wonderful problem. The plant had certainly a nervous system of its own.

Curious Trees.—Just beyond the Darbonne or Caleasieu river, in the parish of Caleasieu, is a white oak tree, about two-and-a-half feet in diameter. There are no branches for twenty-five or thirty feet up. About twelve or fifteen feet up, a pine limb or top part of a pine tree, six or eight inches in diameter, and twelve or sixteen feet long, runs at right angles through the center of the tree, sticking out about the same distance on either side. It tapers a little to one end, where there are two or three knots, giving it the appearance of a tree top. The oak, where it passes through, is grown closely around it. The pine is rich in turpentine and will not decay. There is no fork or hollow in the oak; but it has the appearance as if a hole had been made and the pine struck through, after which the oak closed on it by growth. The question is, how did the pine get through the oak, or the oak round the pine?

In Mallet woods there is another white oak, of considerable size, that divides into two prongs about one-and-a-half feet from the ground, which after running up like a pair of bowlegs, about fifteen feet, unite in one round compact stem. The prongs are about one-and-a-half feet in diameter; and where they unite above, the tree is larger than either of them, but smaller than both together. A man can walk between the two prongs, and the tree stands on a land boundary line. Forked trees are very common; but the question here is, how did the two prongs unite so perfectly into one stem above?

Victorian Wine.—Another successful experiment, says *The Melbourn Argus*, with Victorian wine has been reported. Some white Metario wine of the vintage of 1868 was placed on board the ship Superb by Mr. Leplastrier when she was last here, and made the voyage to England and back. It was tried recently, and was pronounced excellent. It is a first-class wine, fullbodied, and of delicious flavor, and it shows the degree of excellence to which Victorian wines may attain when well handled and properly cared for. It is Mr. Leplastrier's intention to send a rather large quantity of colonial wine home by the Superb on her present trip, and have it brought back again, in order more fully to determine what Victorian wines are really capable of.

The Ascent of Sap in Plants.—Prof. McNab has presented to the Royal Irish Academy a memoir on the ascent of water in the stems of plants, to investigate which point very many experiments were made. He finds in the privet the rate of ascent to be about 6 inches per hour, in the elm 16.6 inches per hour; in the cherry laurel the rate varied from 24 to 13 inches. Experiments were also made as to the influence of sunlight and darkness, the influence of the bark, the influence of the leaves, and the influence of pressure.

The Duke of Buccleugh grape is a new variety, which is considered one of the best and earliest under glass. It is reported as very robust.

A PARLOR FLOWER CASE.